M/037/084

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May 19, 1998

Anthony A. Gallegos
Senior Reclamation Specialist
Utah Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: M/037/084 - Papoose Limestone Mine

Dear Tony:

Glen asked me to give you a synopsis of Cotter Corporation's Papoose Limestone Mine operation for your field trip presentation.

The enclosed report is very brief. I hope it will satisfy your needs. If not, give me a call. I will be happy to send more information.

Sincerely,
COTTER CORPORATION

Jon Showalter
Project Geologist

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Papoose Limestone Mine
Cotter Corporation
San Juan County, Utah

Profile

Cotter Corporation's Papoose Limestone Mine was obtained in April, 1992, as Mineral Lease #45609 from the State of Utah. It is located in Section 36, T.29½S., R.24E., Salt Lake Principal Meridian, San Juan County, Utah.

Geology

The object of the lease is a gray fossiliferous marine limestone bed in the upper member of the Pennsylvanian-aged Hermosa Formation. The limestone bearing unit crops out over most of the southern 2/3 of the leased land and dips an average 13° to the west (ranges from 8° to 20°.) It is overlain along the western part of the lease in Big Indian Valley by red mudstones and thin sandstones of the Permian Cutler Formation. To the east, in Lisbon Valley, erosion has removed the upper Hermosa exposing the lower, fine-grained clastic and evaporite unit. The limestone bed of interest is outcropping or under very shallow cover over an area of about 160 acres, the most accessible is in the S½ NW¼ of section 36.

Production

The primary customer for the mines production is Tri-State Generation and Transmission Association's Nucla power plant located 70 miles east in Colorado. The plant consumes between 24,000 and 36,000 tons of product annually.

The processing involves drilling and blasting of the top 13 feet of the limestone bed followed by normal crushing and screening to produce the correct size material for the Nucla plant and by-products of fines materials and occasional rip-rap. By-products are marketed locally in Utah and Colorado.

Since 1994, Cotter has sold 132,560 tons of Tri-State material and by-product which has resulted in $62,080 in royalties paid to the State of Utah.

Reclamation

The reclamation plan calls for using the unsold by-product materials to bring the pit walls to a 1V:2H slope before covering with stockpiled topsoil. The lack of sufficient topsoil to cover the entire site necessitated a variance with the State of Utah to distribute the remaining soil as "islands" across the upper surfaces and within the pit.

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